



STIC Search Report

EIC 2600

STIC Database Tracking Number: 182944

TO: Young Y Lee
Location: *KNX 6 A45*
Art Unit : 2621
Thursday, March 23, 2006

Case Serial Number: 09/899878

From: Samir Patel
Location: EIC 2600
KNX-8B68
Phone: 571-272-3537

Samir.patel@uspto.gov

Search Notes

Dear Examiner,

Attached are the search results (from commercial databases) for your case.

Tags mark the patent/articles, which might be of interest. After you review all records including tagged and untagged records, if you wish to order the complete text of any record, please submit request(s) directly to the STIC-EIC 2600 Email Box.

Please call if you have any questions or suggestions, and I have enclosed a Search Results Feedback Form to facilitate further comments or suggestions.

Thanks

Samir Patel



RUSH SPE SIGNATURE

Michael Dost

Access DB#

182944

SEARCH REQUEST FORM

Scientific and Technical Information Center

EIC 2600

Requester's Full Name Young Lee Examiner # 72741 Date 3/22/06
Art Unit 2621 Phone Number 2-7334 Serial Number 09/899,878
Office Location KNX 6445 Format preferred (circle) PAPER EMAIL BOTH

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Let us know what you already have and so do not need.

Include the keywords, synonyms and meaning of acronyms. Define all terms that may have a specific meaning. Please attach a copy of the background, abstract, claims and other pertinent information.

Please state how the terms or keyword strings should relate to one another.

Title of the Invention Adaptive Pre-Processing Method for Motion Estimation
Inventor(s) Francois Martin

Earliest Priority date to be used 7/13/00

1. compute a histogram of luminance or chrominance values of a video frame/signal.
2. correct the values to provide modified values.
3. use the modified video signal for motion estimation

- items 1 and 2 appear to be well known methods.
- item 3 is well know in video processing.
- I need the combination of 1+2+3. (see fig. 1)

STAFF USE ONLY

Searcher Saurio Patel

Phone 2-8537

Location KNX-8B68

Date picked up 03/23/9:00 a.m

Date completed 03/23/5:00 p.m

Search Prep/review 130

Online Time 240

TYPE of Search

Text ☒

Litigation ☐

Other ☐

Databases Searched

Dialog ☒

STN ☐

QuestelOrbit ☐

LEXIS/NEXIS ☐

Courtlink ☐

Other ☐

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File 144:Pascal 1973-2006/Feb W4
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File 414:Dialog Journal Name Finder(TM) 2006/Feb
(c) 2006 Dialog

Set	Items	Description
S1	49837	(HISTOGRAM??? OR GRAPH??? OR CHART?? OR PLOT???) (5N) (LUMIN- ANCE??? OR CHROMINANC??? OR BRIGHT????? OR COLOR????? OR COLOU- R????)
S2	6299	(COMPUT??? OR ESTIMAT????? OR MEASUR????? OR CALCULAT????? OR DETERMIN????? OR EVALUAT????? OR RECORD????? OR DETECT????? OR E- VALUAT????? OR IDENTIF?????) (5N) S1
S3	230321	(CORRECT????? OR ADJUST????? OR ALTER????? OR CHANG????? OR IM- PROV????? OR AMEND????? OR MODIF???????) (5N) (VALU??? OR BRIGHT?- ????? OR COLOR????? OR COLOUR????? OR LUMINANC??? OR CHROMINANC?- ??)
S4	518980	VIDEO??

S5 103589 (NEW?? OR MODIFIED?? OR CORRECTED?? OR ADJUSTED?? OR ALTER-
 ED OR CHANGED OR IMPROVED OR AMENDED) (3N) (VALUE??? OR BRIGHT?-
 ??? OR COLOR???? OR COLOUR???? OR LUMINANCE??? OR CHROMINANC-
 ???)
 S6 45824 MOTION?? (3N) ESTIMAT????
 S7 165270 PIXEL??? OR PICTURE?? (2N) ELEMENT?? OR SUBPIXEL??
 S8 8751 AU=(MARTIN F? OR MARTIN, F?)
 S9 0 S2 AND S3 AND S4 AND S5 AND S6 AND S7
 S10 0 S2 AND S3 AND S4 AND S5 AND S6
 S11 6 S2 AND S3 AND S4 AND S6
 S12 6 RD (unique items)
 S13 49 S1 AND S4 AND S6
 S14 43 RD (unique items)
 S15 7 S14 AND S3
 S16 7 RD (unique items)
 S17 6 S16 NOT PY>2000
 S18 1 S17 NOT S12
 S19 19 S14 AND (S2 OR S5)
 S20 19 RD (unique items)
 S21 13 S20 NOT (S17 OR S12)
 S22 1 S8 AND S1

12/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

06335780 INSPEC Abstract Number: B9609-6140C-553, C9609-5260B-339

Title: Gesture estimation using color combination

Author(s): Yoshino, K.; Yoshikawa, K.; Kawashima, T.; Aoki, Y.

Author Affiliation: Dept. of Inf. Eng., Hokkaido Univ., Sapporo, Japan

Conference Title: ACCV '95. Second Asian Conference on Computer Vision.

Proceedings Part vol.2 p.405-9 vol.2

Publisher: Nanyang Technol. Univ, Singapore

Publication Date: 1995 Country of Publication: Singapore 3 vol.
(xxxii+548+811+839) pp.

ISBN: 981 00 7177 9 Material Identity Number: XX96-01801

Conference Title: Proceedings of Second Asian Conference on Computer Vision. ACCV '95

Conference Sponsor: Int. Assoc. Pattern Recognition; IEICE of Japan; Inf. Processing Soc. Japan; et al

Conference Date: 5-8 Dec. 1995 Conference Location: Singapore

Language: English

Subfile: B C

Copyright 1996, IEE

Abstract: This paper introduces a method for recognizing a gesture by **estimating** the structure and **motion** of a human hand. The method uses a coloured glove to which multiple color patches...

... estimated using the color combination of visible patches in the input scene taken by a **video** camera. Patches are extracted by **computing** the ratio of the **color histograms** of the input image and the model image which concatenates all the color patches on the coloured glove. Additionally, hand **motion** is **estimated** from the **changes** in the **color** combination and the trajectory of the center of gravity of the finger patches. The experimental results evaluate the validity of the proposed method.

...Descriptors: **motion estimation**

...Identifiers: **video** camera; color histograms; model image

12/3,K/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

06229134 INSPEC Abstract Number: B9605-6140C-248, C9605-5260B-168

Title: Direct estimation of human hand gesture using color combination

Author(s): Yoshino, K.; Kawashima, T.; Aoki, Y.

Author Affiliation: Fac. of Eng., Hokkaido Univ., Sapporo, Japan

Journal: Transactions of the Institute of Electronics, Information and Communication Engineers A vol.J79-A, no.2 p.424-31

Publisher: Inst. Electron. Inf. & Commun. Eng,

Publication Date: Feb. 1996 Country of Publication: Japan

CODEN: DJTAER ISSN: 0913-5707

SICI: 0913-5707(199602)J79A:2L.424:DEHH;1-J

Material Identity Number: K838-96004

Language: Japanese

Subfile: B C

Copyright 1996, IEE

...Abstract: estimated using the color combination of visible patches in the input scene taken by a **video** camera. Patches are extracted by

computing the ratio of both the **color histograms** of the input image and the model image which concatenates all the color patches on the color glove. Additionally, the hand **motion** is **estimated** from the **change** of the **color** combination and the trajectory of the center of gravity of the finger patches.

...Identifiers: **video** camera; color histograms; model image; hand motion; trajectory

12/3,K/3 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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05623482 E.I. No: EIP00085280132

Title: Fast motion compensation algorithm for video sequences with local brightness variations

Author: Kim, Sang Hyun; Park, Rae-Hong

Corporate Source: Sogang Univ, Seoul, South Korea

Conference Title: Visual Communications and Image Processing 2000

Conference Location: Perth, Aust Conference Date: 19000620-19000623

Source: Proceedings of SPIE - The International Society for Optical Engineering v 4067 (III) 2000. Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, USA. p 1229-1238

Publication Year: 2000

CODEN: PSISDG ISSN: 0277-786X

Language: English

Title: Fast motion compensation algorithm for video sequences with local brightness variations

Abstract: In this paper, a fast motion compensation algorithm is proposed that improves coding efficiency for **video** sequences with brightness variations. We also propose a cross entropy **measure** between **histograms** of two frames to **detect brightness** variations. The framewise brightness variation parameters, a multiplier and an offset field for image intensity ...

...ratio (PSNR) compared with the conventional method, with a greatly reduced computational load, when the **video** scene contains illumination changes. (Author abstract) 21 Refs.

Identifiers: **Motion estimation**; **Brightness** variation compensation; **Brightness change** detection; Cross entropy; Peak signal to noise ratio (PSNR)

12/3,K/4 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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02398609 JICST ACCESSION NUMBER: 95A0742266 FILE SEGMENT: JICST-E

Hand Language Recognition Using Color Glove.

YOSHINO KAZUYOSHI (1); KAWASHIMA TOSHIO (1); AOKI YOSHINAO (1)

(1) Hokkaido Univ., Fac. of Eng.

Joho Shori Gakkai Kenkyu Hokoku, 1995, VOL.95,NO.68(CV-95), PAGE.51-58,

FIG.10, REF.11

JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:165 681.51:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

...ABSTRACT: estimated using the color combination of visible patches in the input scene taken by a **video** camera. Patches are extracted by **computing** the ratio of both the **color histograms** of the input image and the model image which concatenates all the color patches on the color glove. Additionally, the hand **motion** is **estimated** from the **change** of the **color** combination and the trajectory of the center of gravity of the finger patches. (author abst.)

12/3,K/5 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
(c) 2006 INIST/CNRS. All rts. reserv.

16189472 PASCAL No.: 03-0347872
Fast local motion-compensation algorithm for video sequences with brightness variations
SANG HYUN KIM; PARK Rae-Hong
Department of Electronic Engineering, Sogang University, Seoul 100-611, Korea, Republic of
Journal: IEEE transactions on circuits and systems for video technology, 2003, 13 (4) 289-299
Language: English

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Fast local motion-compensation algorithm for video sequences with brightness variations

This paper proposes a fast local motion-compensation algorithm that improves motion-compensation performance for **video** sequences with brightness variations. The brightness variation parameters, a multiplier and an offset field for image intensity, are robustly **estimated** and local **motions** are compensated. We also propose the frame classification method based on the cross entropy between...
... signal-to-noise ratio than the conventional methods, with a low computational load, when the **video** scene contains large **brightness changes**.

English Descriptors: Motion compensation; Algorithm; **Video** signal processing; **Brightness** ; **Histogram** ; **Motion estimation** ; **Change detection** **Compensat**

French Descriptors: Compensation mouvement; Algorithme; Traitement signal **video** ; Brilliance; Histogramme; Estimation mouvement; Detection changement

12/3,K/6 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal
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14501942 PASCAL No.: 00-0165061
Performance characterization of video -shot-change detection methods
GARGI U; KASTURI R; STRAYER S H
Department of Computer Science and Engineering, Pennsylvania State University, University Park, PA 16802, United States; Raytheon Systems Company, State College, PA 16802, United States
Journal: IEEE transactions on circuits and systems for video technology, 2000, 10 (1) 1-13
Language: English

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Performance characterization of video -shot-change detection methods

A number of automated shot-change detection methods for indexing a **video** sequence to facilitate browsing and retrieval have been proposed in recent years. Many of these methods use **color histograms** or features **computed** from block motion or compression parameters to compute frame differences. It is important to evaluate...

...deliver a single set of algorithms that may be used by other researchers for indexing **video** databases. We present the results of a performance evaluation and characterization of a number of shot- **change detection** methods that use **color histograms**, block motion matching, or MPEG compressed data.

English Descriptors: Image processing; **Video** signal; Database; Information retrieval; Automatic indexing; Color image; Segmentation; Data compression; Information browsing; Block matching; Scene analysis; Information extraction; **Motion estimation**; Performance evaluation; Threshold detection; Edge detection; Algorithm performance; Histogram; Experimental result; Waveform

French Descriptors: Traitement image; Signal **video**; Base donnee; Recherche information; Indexation automatique; Image couleur; Segmentation; Compression donnee; Navigation information; Correspondance bloc; Analyse scene; Extraction information; Estimation mouvement; Evaluation performance; Detection seuil; Detection contour; Performance algorithme; Histogramme; Resultat experimental; Forme onde

Spanish Descriptors: Procesamiento imagen; Senal **video**; Base dato; Recuperacion informacion; Indizacion automatica; Imagen color; Segmentacion; Compresion dato; Navegacion informacion; Correspondencia bloque; Analisis escena; Extraction informacion; Estimacion movimiento; Evaluacion prestacion; Deteccion umbral; Deteccion contorno; Resultado algoritmo; Histograma; Resultado experimental; Forma onda

?

18/3,K/1 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
(c) 2006 INIST/CNRS. All rts. reserv.

13831712 PASCAL No.: 99-0007410
Video **segmentation using color difference histogram**
MINAR '98 : multimedia information analysis and retrieval : Hong Kong,
13-14 August 1998
LAM C F; LEE M C
IP Horace HS, ed; SMEULDERS Arnold WM, ed
Department of Computer Science and Engineering, The Chinese University of
Hong Kong, Shatin, N.T, Hong Kong
IAPR international workshop (Hong Kong CHN) 1998-08-13
Journal: Lecture notes in computer science, 1998, 1464 159-174
Language: English

Copyright (c) 1999 INIST-CNRS. All rights reserved.

Video **segmentation using color difference histogram**
This paper proposes a **video** segmentation algorithm based on a **color**
difference histogram (CDH) which is insensitive to illuminations, object
motions and camera movements. The relative high performance of the
algorithm relies to some extent on the newly devised **video** scene
detection method (DD) based on the analysis of the changes of **video** frame
differences. We have identified characteristic patterns for the **changes**
of frame difference **values** around the frame positions involving a scene
break, or a flashlight. The paper demonstrates experimentally that the
proposed algorithm out-performs other existing algorithms and that the DD
method can identify flashlights besides detecting scene breaks.

English Descriptors: Image processing; Segmentation; Algorithm; **Motion**
estimation ; Image recognition; Experimental study; Algorithm performance
?

21/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

08726601 INSPEC Abstract Number: B2003-10-6135-216, C2003-10-5260D-050

Title: Robust automated footage analysis for professional media applications

Author(s): Mateer, J.W.; Robinson, J.A.

Author Affiliation: York Univ., UK

Conference Title: International Conference on Visual Information Engineering (VIE 2003) (IEE Conf. Publ.No.495) p.85-8

Publisher: IEE, London, UK

Publication Date: 2003 Country of Publication: UK xvi+324 pp.

ISBN: 0 85296 757 8 Material Identity Number: XX-2003-02845

Conference Title: International Conference on Visual Information Engineering (VIE 2003). Ideas, Applications, Experience

Conference Date: 7-9 July 2003 Conference Location: Guildford, UK

Language: English

Subfile: B C

Copyright 2003, IEE

Abstract: We report a method for automated **video** indexing and shot characterization that meets the specific requirements of professional post-production and archivist end users. ASAP - Automated Shot Analysis Program - interprets source **video** material in a manner consistent with industry practice and generates logs and searchable databases of...

... test footage and rigorous metrics we show that ASAP is more robust than well-established **colour histogram** boundary **detection** methods and effective at parsing complex camera movement. These results indicate that our techniques are potentially valuable for professional application.

...Descriptors: **motion estimation** ; ...

... **video** databases...

... **video** signal processing

Identifiers: automated **video** indexing...

...automated **video** shot characterization...

...source **video** material interpretation...

... **colour histogram** boundary **detection** methods; complex camera movement parsing

21/3,K/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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08148608 INSPEC Abstract Number: B2002-02-6135E-113, C2002-02-5260B-368

Title: Flame recognition in video

Author(s): Phillips, W., III; Shah, M.; da Vitoria Lobo, N.

Author Affiliation: Comput. Vision Lab., Univ. of Central Florida, Orlando, FL, USA

Journal: Pattern Recognition Letters vol.23, no.1-3 p.319-27

Publisher: Elsevier,

Publication Date: Jan. 2002 Country of Publication: Netherlands

CODEN: PRLEDG ISSN: 0167-8655

SICI: 0167-8655(200201)23:1/3L.319:FRV;1-C
Material Identity Number: D719-2001-013
U.S. Copyright Clearance Center Code: 0167-8655/02/\$22.00
Language: English
Subfile: B C
Copyright 2002, IEE

Title: Flame recognition in video

Abstract: This paper presents an automatic system for fire detection in **video** sequences. We propose a system that uses color and motion information computed from **video** sequences to locate fire. This is done by first using an approach that is based upon creating a Gaussian-smoothed **color histogram** to **detect** the fire- **colored** pixels, and then using a temporal variation of pixels to determine which of these pixels are actually fire pixels. Next, some spurious fire pixels are automatically removed using an erode operation, and some missing fire pixels are found using region growing method. Unlike the two previous vision-based methods for fire detection, our method is applicable to more areas because of its insensitivity to camera motion. Two specific applications, which were not possible with previous algorithms, are the recognition of fire in the presence of global camera motion or scene motion and the recognition of fire in movies for possible use in an automatic rating system. We show that our method works in a variety of conditions, and that it can automatically determine when it has insufficient information.

...Descriptors: **motion estimation** ; object recognition

...Identifiers: **video** sequences...

... **motion estimation** ;

... **color histogram** ; region growing method; skin detection; computer vision; change detection

21/3,K/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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07868422 INSPEC Abstract Number: B2001-04-6135C-128, C2001-04-5260D-079

Title: Fast motion compensation algorithm for video sequences with local brightness variations

Author(s): Sang Hyun Kim; Rae-Hong Park

Author Affiliation: Dept. of Electr. Eng., Sogang Univ., Seoul, South Korea

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA)

vol.4067, pt.1-3 p.1229-38

Publisher: SPIE-Int. Soc. Opt. Eng.,

Publication Date: 2000 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(2000)4067:1/3L.1229:FMCA;1-3

Material Identity Number: C574-2000-219

U.S. Copyright Clearance Center Code: 0277-786X/2000/\$15.00

Conference Title: Visual Communications and Image Processing 2000

Conference Sponsor: SPIE; Univ. Western Australia; Inst.. Eng. Australia; Soc. Imaging Scu, & Technol.; IEEE

Conference Date: 20-23 June 2000 Conference Location: Perth, WA, Australia

Language: English

Subfile: B C

Copyright 2001, IEE

Title: Fast motion compensation algorithm for video sequences with local brightness variations

Abstract: In this paper, a fast motion compensation algorithm is proposed that improves coding efficiency for **video** sequences with brightness variations. We also propose a cross entropy **measure** between **histograms** of two frames to **detect brightness** variations. The framewise brightness variation parameters, a multiplier and an offset field for image intensity...

... noise ratio compared with the conventional method, with a greatly reduced computational load, when the **video** scene contains illumination changes.

...Descriptors: **motion estimation** ; ...

... **video** coding

...Identifiers: **video** sequences...

... **video** scene

21/3,K/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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07785016 INSPEC Abstract Number: B2001-01-6135E-096, C2001-01-1250M-058

Title: Real-time object tracking and human face detection in cluttered scenes

Author(s): Dockstader, S.L.; Tekalp, A.M.

Author Affiliation: Dept. of Electr. & Comput. Eng., Rochester Univ., NY, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3974 p.957-68

Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 2000 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(2000)3974L:957:RTOT;1-7

Material Identity Number: C574-2000-114

U.S. Copyright Clearance Center Code: 0277-786X/2000/\$15.00

Conference Title: Image and Video Communications and Processing 2000

Conference Sponsor: SPIE; Soc. Imaging Sci. & Technol

Conference Date: 25-28 Jan. 2000 Conference Location: San Jose, CA, USA

Language: English

Subfile: B C

Copyright 2000, IEE

Abstract: This paper presents a real-time **video** surveillance system which is capable of tracking multiple persons and locating faces in moderately complex...

... contain them. The algorithm describes a novel integration of dynamic reference frame differencing and coarse **motion estimation** to overcome the various occlusion problems encountered in multiple object tracking. Change detection is performed...

...updated over time to account for changes in the background, illumination variations, and the like. **Video** object segmentation establishes a mapping from this binary change detection map to an indexed segmentation...

...We employ adaptive linear predictive filtering of the bounding box model in conjunction with the **motion** displacement **estimates** to accurately track multiple occluding objects. Once the **video** is segmented into foreground and background areas, we search within a subset of the foreground bounding boxes using **chrominance histogram** matching to **detect** facial regions.

...Descriptors: **video** signal processing

...Identifiers: real-time **video** surveillance system...

...coarse **motion estimation** ; ...

... **video** object segmentation; binary change detection map; coarse directional information; adaptive linear predictive filtering; background area

21/3,K/5 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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07427626 INSPEC Abstract Number: B2000-01-6135-132, C2000-01-5260D-054

Title: Real-time video mosaics using luminance projection correlation

Author(s): Nagasaka, A.; Miyatake, T.

Author Affiliation: Central Res. Lab., Hitachi Ltd., Kokubunji, Japan

Journal: Transactions of the Institute of Electronics, Information and Communication Engineers D-II vol.J82D-II, no.10 p.1572-80

Publisher: Inst. Electron. Inf. & Commun. Eng,

Publication Date: Oct. 1999 Country of Publication: Japan

CODEN: DTGDE7 ISSN: 0915-1923

SICI: 0915-1923(199910)J82DII:10L.1572:RTVM;1-B

Material Identity Number: M973-1999-011

Language: Japanese

Subfile: B C

Copyright 1999, IEE

Title: Real-time video mosaics using luminance projection correlation

Abstract: This paper introduces a real-time **video** mosaic method which can iterate four processes, that is, image capturing, image registration, pasting, previewing, in **video** rate. This method first **calculates** horizontal and vertical **luminance projection histograms** for each frame image in a **video** and then **estimates** camera **motion**, panning and zooming, using correlation between the projection histograms of two consecutive frames. This method...

... The temporal motion used to make the best matched histogram is decided as an actual **motion estimation** result. Using this method, even a conventional personal computer can **estimate** camera **motion** in real time and can obtain panoramic or high resolution pictures just after taking a shot.

...Descriptors: **motion estimation** ; ...

... **video** signal processing

...Identifiers: real-time **video** mosaic...

... **motion estimation** ; personal computer; real time; high resolution pictures

21/3,K/6 (Item 1 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)
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07384122 E.I. No: EIP05189083698

Title: Intelligent keyframe extraction for video printing

Author: Zhang, Tong

Corporate Source: Hewlett-Packard Laboratories, Palo Alto, CA 94304, United States

Conference Title: Internet Multimedia Management Systems V

Conference Location: Philadelphia, PA, United States Conference Date: 20041026-20041028

E.I. Conference No.: 64621

Source: Proceedings of SPIE - The International Society for Optical Engineering Internet Multimedia Management Systems V v 5601 2004.

Publication Year: 2004

CODEN: PSISDG ISSN: 0277-786X

Language: English

Title: Intelligent keyframe extraction for video printing

Abstract: Nowadays most digital cameras have the functionality of taking short **video** clips, with the length of **video** ranging from several seconds to a couple of minutes. The purpose of this research is to develop an algorithm which extracts an optimal set of keyframes from each short **video** clip so that the user could obtain proper **video** frames to print out. In current **video** printing systems, keyframes are normally obtained by evenly sampling the **video** clip over time. Such an approach, however, may not reflect highlights or regions of interest in the **video**. Keyframes derived in this way may also be improper for **video** printing in terms of either content or image quality. In this paper, we present an...

...keyframe extraction approach to derive an improved keyframe set by performing semantic analysis of the **video** content. For a **video** clip, a number of **video** and audio features are analyzed to first generate a candidate keyframe set. These features include accumulative **color histogram** and **color** layout differences, camera **motion estimation**, moving object tracking, face detection and audio event detection. Then, the candidate keyframes are clustered...

...different people and their actions in the scene; and to tell the story in the **video** shot. Moreover, frame extraction for **video** printing, which is a rather subjective problem, is considered in this work for the first time, and a semi-automatic approach is proposed. 8 Refs.

Descriptors: ***Video** o cameras; Information theory; Intelligent agents; **Motion estimation**; Image analysis; Face recognition; Tracking (position); Web browsers; Audio equipment; Automation; Learning systems

Identifiers: Keyframe extraction; **Video** printing; **Video** browsing; Camera **motion estimation**; Object **motion** tracking; Face detection; Audio event detection; Semi-automatic keyframe extraction

21/3,K/7 (Item 2 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)
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07039530 E.I. No: EIP04398380376

Title: Multiple frame motion inference using belief propagation

Author: Gao, Jiang; Shi, Jianbo

Corporate Source: Robotics Institute Carnegie Mellon University, Pittsburgh, PA 15213, United States

Conference Title: Proceedings - Sixth IEEE International Conference on

Automatic Face and Gesture Recognition FGR 2004

Conference Location: Seoul, South Korea Conference Date:
20040517-20040519

E.I. Conference No.: 63497

Source: Proceedings - Sixth IEEE International Conference on Automatic Face and Gesture Recognition Proceedings - Sixth IEEE International Conference on Automatic Face and Gesture Recognition FGR 2004 2004.

Publication Year: 2004

ISBN: 0769521223

Language: English

...Abstract: algorithm is applied in a prototype system that can automatically label upper body motion from **videos**, without manual initialization of body parts. 12 Refs.

Descriptors: *Light propagation; **Motion estimation**; Inference engines; Automation; Problem solving; Feature extraction; Constraint theory; **Video** conferencing; Three dimensional **computer graphics**; Tracking (position); **Color** image processing

21/3,K/8 (Item 3 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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06756403 E.I. No: EIP04118060242

Title: SnakeToonz: A Semi-Automatic Approach to Creating Cel Animation from Video

Author: Agarwala, Aseem

Corporate Source: Dept. of Comp. Sci. and Engineering University of Washington, Seattle, WA, United States

Conference Title: NPAR 2002 Symposium on Non-Photorealistic Animation and Rendering

Conference Location: Annecy, France Conference Date: 20020603-20020605

E.I. Conference No.: 62363

Source: NPAR Symposium on Non-Photorealistic Animation and Rendering 2002.

Publication Year: 2002

Language: English

Title: SnakeToonz: A Semi-Automatic Approach to Creating Cel Animation from Video

...Abstract: that allows children and others untrained in cel animation to create two-dimensional cartoons from **video** streams and images. The ability to create cartoons has traditionally been limited to professional animation houses and trained artists. SnakeToonz aims to give anyone with a **video** camera and a computer the ability to create compelling cel animation. This is done by...

...of that input. A cartoon is created in a dialogue with the system. After recording **video** material the user sketches contours directly onto the first frame of **video**. These sketches initialize a set of spline-based active contours which are relaxed to best...

...are closed, and the user can choose colors for the cartoon. The system then uses **motion estimation** techniques to track these contours through the image sequence. The user remains in the process to edit the cartoon as it progresses. 37 Refs.

Descriptors: ***Video** signal processing; Animation; Interactive **computer graphics**; Image processing; **Video recording**; **Color** motion pictures; **Computer** vision; Image quality; Algorithms

21/3,K/9 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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06245546 E.I. No: EIP02517289063

Title: A color vector quantization based video coder

Author: Li, Zhu; Katsaggelos, Aggelos K.

Corporate Source: Multimedia Communication Res. Lab. Motorola Labs, Schaumburg, IL, United States

Conference Title: International Conference on Image Processing (ICIP'02)

Conference Location: Rochester, NY, United States Conference Date: 20020922-20020925

E.I. Conference No.: 60384

Source: IEEE International Conference on Image Processing v 3 2002. p III/673-III/676 (IEEE cat n 02ch37396)

Publication Year: 2002

CODEN: 85QTAW

Language: English

Title: A color vector quantization based video coder

...Abstract: with limited color capability. In this paper we are proposing a color vector quantization-based **video** coder, exploiting the temporal stationary nature of color distribution among a group of pictures (GOP...

...applied first to reduce the RGB image sequence into a single channel color index image. **Motion estimation** and compression is then performed in the index space, instead of the separate YCbCr channels. Initial results demonstrated that the proposed coder can provide good compression rates. By eliminating the need for an inverse DCT and color conversion, typical requirements in a JPEG/MPEG type of coders, the decoding is computationally very simple. This makes it suitable for certain applications like media playback, and visual communications with low-end mobile devices. 10 Refs.

Descriptors: *Image compression; Image coding; Vector quantization; **Color computer graphics** ; **Motion estimation** ; Decoding; Display devices

21/3,K/10 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05963855 E.I. No: EIP01526777736

Title: Metrics for performance evaluation of video object segmentation and tracking without ground-truth

Author: Erdem, C.E.; Tekalp, A.M.; Sankur, B.

Corporate Source: Dept. of Elec. and Electron. Eng. Bogazici University, Istanbul 80815, Turkey

Conference Title: IEEE International Conference on Image Processing (ICIP)

Conference Location: Thessaloniki, Greece Conference Date: 20011007-20011010

E.I. Conference No.: 58801

Source: IEEE International Conference on Image Processing v 2 2001. p 69-72 (IEEE cat n 01CH37205)

Publication Year: 2001

CODEN: 85QTAW

Language: English

Title: Metrics for performance evaluation of video object segmentation and tracking without ground-truth

Abstract: We present metrics to evaluate the performance of video object segmentation and tracking methods quantitatively when ground-truth segmentation maps are not available. The proposed metrics are based on the color and motion differences along the boundary of the **estimated video** object plane and the **color histogram** differences between the current object plane and its temporal neighbors. These metrics can be used to localize (spatially and/or temporally) regions where segmentation results are good or bad; or combined to yield a single numerical measure to indicate the goodness of the boundary segmentation and tracking results. Experimental results are presented to evaluate the segmentation map of the "Man" object in the "Hall Monitor" sequence both in terms of a single numerical measure, as well as localization of the good and bad segments of the boundary. 8 Refs.

Descriptors: *Image analysis; Image segmentation; Object recognition; **Motion estimation** ; Color image processing; Feature extraction; Algorithms

Identifiers: **Video** object segmentation; Object tracking

21/3,K/11 (Item 6 from file: 8)
DIALOG(R)File 8: Ei Compendex(R)
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05943924 E.I. No: EIP01476740226

Title: On clustering and retrieval of video shots

Author: Ngo, C.-W.; Pong, T.-C.; Zhang, H.-J.

Corporate Source: Department of Computer Science Hong Kong Univ. of Sci. and Technol., Clear Water Bay, Kowloon, Hong Kong

Conference Title: -ACM Multimedia 2001 Workshops- 2001 Multimedia Conference

Conference Location: Ottawa, Ont., Canada **Conference Date:** 20010930-20011005

E.I. Conference No.: 58703

Source: Proceedings of the ACM International Multimedia Conference and Exhibition n IV 2001. p 51-60

Publication Year: 2001

Language: English

Title: On clustering and retrieval of video shots

Abstract: Clustering of video data is an important issue in video abstraction, browsing and retrieval. In this paper, we propose a two-level hierarchical clustering approach by aggregating shots with similar motion and color features. Motion features are **computed** directly from 2D tensor **histograms**, while **color** features are represented by 3D **color histograms**. Cluster validity analysis is further applied to automatically determine the number of clusters at each level. **Video** retrieval can then be done directly based on the result of clustering. The proposed approach ...

...games, where motion and color are important visual cues when searching and browsing the desired video shots. Since most games involve two teams, classification and retrieval of teams becomes an interesting topic. To achieve these goals, nevertheless, an initial as well as critical step is to isolate team players from background regions. Thus, we also introduce approach to segment foreground objects (players) prior to classification and retrieval. 8 Refs.

Descriptors: *Video recording; Feature extraction; **Motion estimation**

; Algorithms; Tensors; Color; Image analysis; **Video** signal processing;
Image segmentation; Two dimensional; Three dimensional
Identifiers: **Video** shots; Hierarchi clustering; Motion and **color**
retrieval; Team classification; Tensor **histograms** ; Cluster validity
analysis; Clustering; Sport games

21/3,K/12 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
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01245515 I98100849300

3-D model-based segmentation of videoconference image sequences

Kompatsiaris, I; Tzovaras, D; Strintzis, MG

Lab. of Inf. Processing, Aristotelian Univ. of Thessaloniki, Greece

IEEE Transactions on Circuits and Systems for Video Technology, v8, n5,
pp547-561, 1998

Document type: journal article Language: English

Record type: Abstract

ISSN: 1051-8215

ABSTRACT:

...The articulation procedure is based on the homogeneity of parameters, such as rigid 3-D **motion** , color, and depth, **estimated** for each subobject, which consists of a number of interconnected triangles of the 3-D model. The rigid 3-D motion of each subobject for subsequent frames is estimated using a Kalman filtering algorithm, taking into account the temporal correlation between consecutive frames. Information from all cameras is combined during the formation of the equations for the rigid 3-D motion parameters. The threshold used in the object segmentation procedure is updated at each iteration using the histogram of the subobject parameters. The parameter estimation for each subobject and the 3-D model segmentation procedures are interleaved and repeated iteratively until a satisfactory object segmentation emerges. The performance of the resulting segmentation method is evaluated experimentally.

DESCRIPTORS: CORRELATION METHOD; FILTER THEORY; IMAGE SEGMENTATION; IMAGE SEQUENCES; KALMAN FILTERS; PARAMETER **ESTIMATION** ; **COMPUTER** CONFERENCING; **COLOR** ; TEMPORAL CORRELATION; ITERATIVE METHOD; **HISTOGRAMS** ; **MOTION ESTIMATION** ; **STEREO** IMA GE PROCESSING; **VIDEO** SIGNAL PROCESSING

21/3,K/13 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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17051286 PASCAL No.: 05-0115556

Intelligent keyframe extraction for video printing

Internet multimedia management systems V : Philadelphia PA, 26-28 October 2004

TONG ZHANG

SMITH John R, ed; TONG ZHANG, ed; PANCHANATHAN Sethuraman, ed
Hewlett-Packard Laboratories, 1501 Page Mill Road, Palo Alto, CA 94304,
United States

International Society for Optical Engineering, Bellingham WA, United States

Internet multimedia management systems. Conference (Philadelphia PA USA)
2004-10-26

Journal: SPIE proceedings series, 2004, 5601 25-35

Language: English

Intelligent keyframe extraction for video printing

Nowadays most digital cameras have the functionality of taking short **video** clips, with the length of **video** ranging from several seconds to a couple of minutes. The purpose of this research is to develop an algorithm which extracts an optimal set of keyframes from each short **video** clip so that the user could obtain proper **video** frames to print out. In current **video** printing systems, keyframes are normally obtained by evenly sampling the **video** clip over time. Such an approach, however, may not reflect highlights or regions of interest in the **video**. Keyframes derived in this way may also be improper for **video** printing in terms of either content or image quality. In this paper, we present an...

... keyframe extraction approach to derive an improved keyframe set by performing semantic analysis of the **video** content. For a **video** clip, a number of **video** and audio features are analyzed to first generate a candidate keyframe set. These features include accumulative **color histogram** and **color** layout differences, camera **motion estimation**, moving object tracking, face detection and audio event detection. Then, the candidate keyframes are clustered...

... different people and their actions in the scene; and to tell the story in the **video** shot. Moreover, frame extraction for **video** printing, which is a rather subjective problem, is considered in this work for the first time, and a semi-automatic approach is proposed.

English Descriptors: **Video** signal; Image content; Image quality; Semantic analysis; Image analysis; Image processing; Content analysis; Multimedia; Histogram; Mobility; **Motion estimation**; Facies; Printing; Displacement measurement; Moving body; Proximity detector; Optimal algorithm; Sampling; Interest region

French Descriptors: Signal **video**; Contenu image; Qualite image; Analyse semantique; Analyse image; Traitement image; Analyse contenu; Multimedia; Histogramme; Mobilite; Estimation mouvement; Facies; Impression; Mesure deplacement; Corps mobile; Detecteur proximite; Algorithme optimal; Echantillonnage; Region interet

Spanish Descriptors: Senal **video**; Contenido imagen; Calidad imagen; Analisis semantico; Analisis imagen; Procesamiento imagen; Analisis contenido; Multimedia; Histograma; Movilidad; Estimacion movimiento; Facies; Impresion; Medicion desplazamiento; Cuerpo movil; Detector proximidad; Algoritmo optimo; Muestreo; Region interes

?

22/3,K/1 (Item 1 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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01893156 E.I. Monthly No: EIM8509-054587

**Title: COLOR GRAPHICS PRESENTATION OF THE SPACE SHUTTLE ORBITER
WINDWARD SURFACE ENTRY TEMPERATURE DISTRIBUTION.**

Author: **Martin, F. W. Jr.** ; Schuster, D. J.

Corporate Source: NASA, Lyndon B. Johnson Space Cent, Houston, TX, USA

Conference Title: AIAA 20th Thermophysics Conference.

Conference Location: Williamsburg, VA, USA Conference Date: 19850619

E.I. Conference No.: 06745

Source: AIAA Paper Publ by AIAA, New York, NY, USA AIAA-85-1027, 6p

Publication Year: 1985

CODEN: AAPRAQ ISSN: 0146-3705

Language: English

**Title: COLOR GRAPHICS PRESENTATION OF THE SPACE SHUTTLE ORBITER
WINDWARD SURFACE ENTRY TEMPERATURE DISTRIBUTION.**

Author: **Martin, F. W. Jr.** ; Schuster, D. J.

...Abstract: measured during the fifth entry of the Space Shuttle Columbia is presented as solid filled **color** contour **plots**. These **plots** show the data from 92 instruments, at selected points in time, in a manner which makes the temperature extremes and gradients immediately obvious. Several physical phenomena, such as separated flow caused by the deflected body flap, local heating at the elevon-elevon gap, an overview of the propagation of boundary-layer transition over the Orbiter windward surface, and the thermal response of eight catalytically coated tiles, can be observed or inferred from the displayed temperatures. In addition, the maximums from each instrument have been contoured and are presented with a companion plot showing the percentage of surface area covered by each contour level. Also, the flight data are presented using the colors which correspond to the surface emittance as a function of temperature. To show the temperature transients, a computer-generated movie has been produced showing the temperature contours from 100 s to 1500 s after entry interface. 9 refs.

Identifiers: **COLOR GRAPHICS PRESENTATION; ORBITER WINDWARD SURFACE;
DATA FROM 92 INSTRUMENTS; LAMINAR HEATING SEQUENCE**

?

File 9:Business & Industry(R) Jul/1994-2006/Mar 21
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 File 16:Gale Group PROMT(R) 1990-2006/Mar 23
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 File 47:Gale Group Magazine DB(TM) 1959-2006/Mar 22
 (c) 2006 The Gale group
 File 75:TGG Management Contents(R) 86-2006/Mar W2
 (c) 2006 The Gale Group
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 (c) 2005 The HW Wilson Co
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 File 674:Computer News Fulltext 1989-2006/Mar W3

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 (c) 1999 Business Wire
 File 813:PR Newswire 1987-1999/Apr 30
 (c) 1999 PR Newswire Association Inc
 File 587:Jane`s Defense&Aerospace 2006/Mar W3
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Set	Items	Description
S1	155351	(HISTOGRAM??? OR GRAPH??? OR CHART?? OR PLOT???) (5N) (LUMINANCE??? OR CHROMINANC??? OR BRIGHT????? OR COLOR????? OR COLOUR????)
S2	9526	(COMPUT??? OR ESTIMAT???? OR MEASUR???? OR CALCULAT???? OR DETERMIN???? OR EVALUAT???? OR RECORD???? OR DETECT????? OR EVALUAT????? OR IDENTIF?????) (5N) S1
S3	650821	(CORRECT???? OR ADJUST???? OR ALTER???? OR CHANG???? OR IMPROV???? OR AMEND???? OR MODIF?????) (5N) (VALU??? OR BRIGHT????? OR COLOR???? OR COLOUR???? OR LUMINANC??? OR CHROMINANC???)
S4	4704298	VIDEO??
S5	684366	(NEW?? OR MODIFIED?? OR CORRECTED?? OR ADJUSTED?? OR ALTERED OR CHANGED OR IMPROVED OR AMENDED) (3N) (VALUE??? OR BRIGHT????? OR COLOR???? OR COLOUR???? OR LUMINANCE??? OR CHROMINANC???)
S6	4345	MOTION?? (3N) ESTIMAT????
S7	187240	PIXEL??? OR PICTURE?? (2N) ELEMENT?? OR SUBPIXEL??
S8	763	AU= (MARTIN F? OR MARTIN, F?)
S9	0	S2 (S) S3 (S) S4 (S) S5 (S) S6 (S) S7
S10	0	S2 (S) S3 (S) S4 (S) S5 (S) S6
S11	7	S1 (S) S4 (S) S6
S12	4	RD (unique items)
S13	7	S1 (S) S6
S14	0	S13 NOT S11
S15	4	S8 AND S1
S16	1	RD (unique items)

12/3,K/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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12400867 Supplier Number: 132603280 (USE FORMAT 7 FOR FULLTEXT)
Micronas Presents a Quantum Leap in the TV Viewing Experience.
PR Newswire, pNA
Jan 4, 2005
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 779

... source material and the 60 frames per second of flat panels TVs. Accurate vector-based **motion estimation** makes these fill-in frames as sharp as the originals. truD further improves the image quality by enhancing image contrast and sharpness with advanced **video** algorithms. These include peaking, sub-pixel luminance sharpness enhancement (LSE), **chrominance** sharpness enhancement (CSE), and dynamic **histogram**-based contrast adjustment.

The FRC 9429A integrates all the functions of a high-end frame rate converter for DTV, including video memory, in one monolithic IC. It is ideally suited to work together with video systems solutions for CRT, LCD, Plasma, and Digital Light Projection (DLP) displays, such as the Micronas deflection processor DDP3315/16 or the DTV scaler DPS9455B.

The FRC 9429A comes in a QFP-144 package. Fully qualified samples and reference designs are available now and volume production has started with major OEMs. Prices for high quantities range from approximately \$20 to \$26 (US), depending on the product version and volume.

About Micronas

Micronas, a semiconductor designer and manufacturer with worldwide operations, is a leading supplier of cutting-edge IC and sensor system solutions for consumer and automotive electronics. As a market leader in innovative, global TV system solutions, Micronas leverages its expertise into new markets emerging through the digitization of audio and video content. Micronas serves all major consumer brands worldwide, many of them in continuous partnerships seeking joint success. While the holding is headquartered in Zurich (Switzerland), operational headquarters are based in Freiburg (Germany). Currently, the Micronas Group employs about 1900 people. In 2003, it generated CHF 767 million in sales. For more information on Micronas and its products, please visit <http://www.micronas.com/>.

CONTACT: Micronas Press Office, +49-761-517-2324, or fax, +49-761-517-2622, or media@micronas.com; or Anja Maria Hastenrath, +49 171 1959330, for Micronas GmbH

Web site: <http://www.micronas.com/>

12/3,K/2 (Item 1 from file: 88)
DIALOG(R)File 88:Gale Group Business A.R.T.S.
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06830296 SUPPLIER NUMBER: 117260066
Employment and unemployment developments, February 2004.
Employment and Earnings, 51, 3, 1(163)
March, 2004
ISSN: 0013-6840 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 58185 LINE COUNT: 32724

12/3,K/3 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

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01636413 SUPPLIER NUMBER: 15119560 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Video compression/decompression chips aim at wide range of applications.

(Integrated Information Technologies' Vision Control Processor and Audio
Digital Imaging's Apogee M-1 processor family) (Software & Development
Tools) (Product Announcement)

Williams, Tom

Computer Design, v32, n12, p40(2)

Dec, 1993

DOCUMENT TYPE: Product Announcement ISSN: 0010-4566 LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 842 LINE COUNT: 00066

... RISC processor, which among other things, handles error correction, multiplexing of the compressed audio and **video**, and parsing of the bit stream protocol. Standard production versions of the VCP have microcode burned-in, but custom designs can also be implemented. An on-chip **video** processor unit handles the MPEG, JPEG and H.261 compression/decompression operations using algorithms stored...

...implementation of the compression algorithm, which McNiffe says are best achieved with a programmable platform. **Motion estimation** and error correction are likewise carried out under program control. For honing picture quality, the VCP offers pre- and post-processing with programmable filtering, scaling, **color**-conversion and **graphics**-overlay functions. With the ADI family, you can choose to use the M-1 codec...

...which, in turn, yields lower compressed data rates. Filter coefficients are software-selectable. The ME **motion - estimation** chip performs realtime vector searches on 4 x 4 pixel blocks with half-pixel accuracy.

Both Audio Digital Imaging and Integrated Information Technologies appear to be targeting the same arena of applications: MPEG compression/decompression, video conferencing, multimedia applications and decode-only applications such as CD-ROM and cable broadcast of digitally compressed programs. Both companies are convinced that cost is the primary consideration, yet their approaches differ: modularity and hard-coding on the part of ADI, and high integration and programmability on the part of IIT.

Quantity 1,000 prices are between \$140 and \$400 for the VCP (depending on speed grade) and about \$500 for the M-1 (about \$1,000 for all three chips). IIT's aggressive pricing appears to have the edge. In addition, IIT is reportedly preparing a stripped-down version of the VCP for decode-only applications, which could make the price competition even hotter.

12/3,K/4 (Item 1 from file: 613)

DIALOG(R)File 613:PR Newswire

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0001675661 IB8F739005E7311D9800FE91A26082890 (USE FORMAT 7 FOR FULLTEXT)
Micronas Presents a Quantum Leap in the TV Viewing Experience With truD(TM), Micronas brings the TV viewing experience to a new level, one that truly harnesses the full capabilities of large flat panel displays. Whether the source is broadcast TV, cable movies, or DVD, Micronas' vector-based motion processing delivers unparalleled visual quality, with real-life motion, enhanced sharpness, and contrast; all without motion judder or jaggies. And it is done with a single chip.

PR Newswire

Tuesday, January 4, 2005 T16:34:00Z

JOURNAL CODE: PR LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 676

...source material and the 60 frames per second of flat panels TVs. Accurate vector-based **motion estimation** makes these fill-in frames as sharp as the originals. truD further improves the image quality by enhancing image contrast and sharpness with advanced **video** algorithms. These include peaking, sub-pixel luminance sharpness enhancement (LSE), **chrominance** sharpness enhancement (CSE), and dynamic **histogram**-based contrast adjustment.

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CONTACT: Micronas Press Office, +49-761-517-2324, or fax, +49-761-517-2622, or media@micronas.com; or Anja Maria Hastenrath, +49 171 1959330, for Micronas GmbH

Web site: <http://www.micronas.com/>
?

16/3,K/1 (Item 1 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)
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03474029 SUPPLIER NUMBER: 09584341 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Letters. (letter to the editor)

Martin, Ford ; Ussel, Dave; Smith., T.L.; Simmons, Lance D.; MacDonagh,
Niall; Osborn, Todd; Kingdon, Sid; LaFara, Robert; Shedd, Daniel; Nijhuis,
Jan A.; Haller, Brother Tobias Stanislas; Grant, Steven
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Niall; Osborn, Todd; Kingdon, Sid; LaFara, Robert; Shedd, Daniel; Nijhuis,
Jan A.; Haller, Brother Tobias Stanislas; Grant, Steven
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Set	Items	Description
S1	13817	(HISTOGRAM??? OR GRAPH??? OR CHART?? OR PLOT???) (5N) (LUMINANCE??? OR CHROMINANC??? OR BRIGHT????? OR COLOR????? OR COLOUR????)
S2	2356	(COMPUT??? OR ESTIMAT???? OR MEASUR???? OR CALCULAT???? OR DETERMIN???? OR EVALUAT???? OR RECORD???? OR DETECT???? OR EVALUAT???? OR IDENTIF????) (5N) S1
S3	216966	(CORRECT???? OR ADJUST???? OR ALTER???? OR CHANG???? OR IMPROV???? OR AMEND???? OR MODIF?????) (5N) (VALU??? OR BRIGHT???? OR COLOR???? OR COLOUR???? OR LUMINANC??? OR CHROMINANC???)
S4	149021	VIDEO??
S5	93579	(NEW?? OR MODIFIED?? OR CORRECTED?? OR ADJUSTED?? OR ALTERED OR CHANGED OR IMPROVED OR AMENDED) (3N) (VALUE??? OR BRIGHT???? OR COLOR???? OR COLOUR???? OR LUMINANCE??? OR CHROMINANC???)
S6	3885	MOTION?? (3N) ESTIMAT????
S7	82123	PIXEL??? OR PICTURE?? (2N) ELEMENT?? OR SUBPIXEL??
S8	388	AU= (MARTIN F? OR MARTIN, F?)
S9	0	S2 (S) S3 (S) S4 (S) S5 (S) S6 (S) S7
S10	0	S2 (S) S3 (S) S4 (S) S5 (S) S6
S11	0	S2 (S) S3 (S) S4 (S) S6
S12	9	S1 (S) S4 (S) S6
S13	2	S12 NOT AD=20000713:20030323/PR
S14	2	S13 NOT AD=20030323:20060323/PR
S15	9	S1 (40N) S4 (40N) S6
S16	4	S15 NOT S12
S17	3	S8 AND S1
S18	1	S17 AND (S2 OR S3 OR S5)
S19	13	S12 OR S15
S20	4	S19 (S) S3
S21	1	S20 NOT AD=20000713:20030323/PR
S22	1	S21 NOT AD=20030323:20060323/PR

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DIALOG(R)File 348:EUROPEAN PATENTS
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01070892

Method for digital video processing
Verfahren zur digitalen Bildverarbeitung
Methode de traitement d'image numerique

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INTERNATIONAL PATENT CLASS (V7): G06T-007/20

ABSTRACT WORD COUNT: 109

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CLAIMS A	(English)	9937	1241
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Total word count - document B			0
Total word count - documents A + B			7123

...SPECIFICATION from the colors in the current frame 250, where C is the total number of colors. Then, the ratio $\text{histogram } RH_j, j) = 1, \dots, C$ 799, is defined as This histogram, $RH_j, j) = 1, \dots, C$, is back-projected onto the current frame 250, that is, the image values are replaced by the values of $RH_j, j) = 1, \dots, C$, that they index. The back-projected image 299 is then convolved by a mask 901, which for compact objects of unknown orientation could be a circle with the same average area as the expected area subtended by the object in the reference frames. Referring to Fig.7, then, the peaks in the convolved image are picked as the expected location of the object in the current frame. The masks $M_k, k=1, \dots, K$, 951-952 are constructed where K denote the total number of peaks selected in the current frame, by shifting the center of the mask used for convolving the backprojected image to the image locations $(x_k), y_k), k=1, \dots, K$ 498 of the peaks. These masks $M_k), k=1, \dots, K$ are then intersected with the estimated rectangle for the marker in Step 130, whose image plane location is defined by its center, width and height $(r(AND))x), r(AND))y), w\& \text{ and } h\&$ 351. The masks that have no intersection are eliminated from the list. Further eliminated are the ones that do not contain the predicted location $(x(AND)), y(AND))$ 451 of the object, among the remaining masks $M(AND))k), k=1, \dots, k(AND))$ 951. After all redundant masks are eliminated the rectangle RR 352 whose center, width and height are denoted by $(R_x), R_y), W$ and H , respectively is constructed. The pixels with minimum and maximum

horizontal coordinates in the current frame in the remaining masks $M(AND(k)), k=1, \dots, k(AND)$ 951 are found. Let $ymin()$ and $ymax()$ denote the horizontal coordinates of these pixels. Similarly, the pixels with minimum and maximum vertical coordinates are found, and denote the vertical coordinates of these by $xmin()$ and $xmax()$, respectively. Then, letting The rectangle RR is then set as the search space for the template matching that is disclosed in Step 160. If the current frame is in between the start and end frames then the confidence level of tracking for the current frame is set to the average of those for the start and end frames. Otherwise, the confidence level of tracking is set to the value for the end frame. Next, Step 160 is considered:

Identifying the marker of the object in the current frame based on template matching. Referring to Fig. 8, within the search space defined by the rectangle RR 352 in the current frame 250, then a search is performed for the best location 450 and marker 350 of the object either using methods for template matching by correlation or robust mean ...321, 1993. H. S. Sawhney, S. Ayer, and M. Gorkani, "Model-based 2D&3D dominant **motion estimation** for mosaicing and **video** representation," Int. Conf. Computer Vision, 1995.

The correlation metric is defined as follows: where $M(I, j)$ denote the reference template, $I(T(i, j))$ denote the intensity distribution of the current frame 250 under the spatial transformation T , and N denote the total number of pixels in the template. The spatial transformation T is defined as where z denote the zoom factor, and $dx()$, and $dy()$ denote the vertical and horizontal displacements.

The zoom factor z in this formula accounts for the camera zoom in and out and the object's motion with respect to the camera. When the camera zooms in and out to the object or the scene, factor z should increase and decrease, respectively. When the zoom factor z equals 1.0, then the motion of the object or the camera is only translational and the size of the object does not change. When the zoom factor z is less than or larger than 1.0, then the object gets smaller or bigger, respectively.

The robust mean square error is formulated as where (α) is a constant value, which is preferably set to 10.

In order to find the best marker location, the location that gives the least mean square error MSE or the maximum correlation C value, in the current frame 250, logarithmic or exhaustive search strategies are applied in 3-D space, $(z, dx(), dy())$ space.

In order to enhance the tracking performance, the object template is also divided into sub-templates and do the search for each sub-template separately. Then, from the motion models for those among the sub-templates that results in lower mean square error MSE or higher correlation C value compared to others are selected to fit a global motion model for the object.

Next, Step 170 is considered: Updating the confidence level of the tracking in the current frame. Depending on the value of the maximum correlation, or the minimum matching value, whichever is used during template matching, the confidence level of tracking is updated. If the correlation metric C is used for template matching, then the best correlation value is multiplied by 100 to obtain the confidence level of the tracking in the current frame 250. The confidence level of the tracking in the current frame is set to $100X(1.0-MSE_{best}))$, where $MSE_{best})$ is the minimum mean square error for the template matching.

Next, Step 180 is considered: Finding the location and shape of the object in the current frame and updating the template of the object in the current frame. Inside the computed marker of the object in the current frame 250, the backprojected image is convolved with a mask. A mask is selected in the shape of the object in reference frame whose template is used for matching. All the image values are ordered within the marker of the object in the convolved back-projected image. The

ratios (gamma)1)), and (gamma)2)) of the region covered by the object are computed within its corresponding shape in the start and end frames, respectively. Using the following formula. A ratio (gamma)(AND)) for the current frame 250 is computed using the following formula:

Out of the pixels that correspond to the (gamma)(AND)) percent of the ordered image in the convolved back-projected image, a mask is constructed. A morphological opening and closing is applied to obtain the final mask for the object in the current frame 250. The boundary of this mask is then set to the boundary of the object 550 in the current frame 250.

Next, Step 190 is considered: Piecewise linear interpolation. Once the marker and locations of the object in a subset of frames in between the first and last frames are computed, piecewise linear interpolation is applied to obtain the marker and location of the object for every frame. The processed frames are ordered according to their time indices. The marker and location of the object in every frame in between any consecutive frames in the ordered processed frames are then estimated. Letting t1)) and t2)) denote the time indices for such consecutive frames, and t denote the time index for a frame in between them the same linear interpolation formulas described in Step 130 are utilized to find the location and marker of the object at time t, from the location and marker of the object at instants t1)) and t2)).

The tool in accordance with the present invention provides a marker location for a selected object in every frame in between two selected frames of a video. Rather than tracking the object in every frame, the method in accordance with the invention tracks the object and the marker for a subset of frames in between the first and last frames. Then, using the marker locations in these frames, an interpolation is carried out of the marker locations in the other frames that are not processed.

In summary, the present invention provides a method for tracking a video object in an image sequence in between two time instances given the locations and shape of the object in those time instances. The method in accordance with the invention provides a real-time reliable approach to tracking objects in complex environments. The trajectory information extracted from the marker and location information in at least two or more frames that are already processed is used to predict the location and marker of the object in any frame between the selected time instances. In addition, the color information of the object in these selected time instances is used to obtain a second prediction for the marker and location of the object in

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00461892 **Image available**
**METHODS AND ARCHITECTURE FOR INDEXING AND EDITING COMPRESSED VIDEO OVER THE
WORLD WIDE WEB**
**PROCEDES ET ARCHITECTURE D'INDEXATION ET D'EDITION DE SEQUENCES VIDEO
COMPRIMEES VIA INTERNET**

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Patent and Priority Information (Country, Number, Date):

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CA JP US
Publication Language: English
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Fulltext Availability:
Detailed Description

Detailed Description
... compressed domains.

For example, in the article by S.W. Smoliar et al., "Content-Based **Video**

Indexing and Retrieval," IEEE Multimedia, summer 1994, pp. 62-72, a **color histogram** comparison technique is proposed to detect scene cuts in the spatial (uncompressed) domain. In the article by B. Shahraray, "Scene Change Detection

and Content-Based Sampling of **Video** Sequences," SPIE Conf. Digital Image

Compression: Algorithms and Technologies 1995, Vol. 2419, a block-based match and **motion estimation** algorithm is presented.

For compressed video information, the article by F. Arnian et al., "Image Processing on Compressed Data for Large Video Databases," Proceedings of ACM Multimedia'93, June 1993, pp. 267-272, proposes a technique for detecting scene cuts in JPEG compressed images by comparing the DCT coefficients of selected blocks from each frame. Likewise, the article by J. Meng et al., "Scene Change Detection in a MPEG Compressed Video Sequence," IS&T/SPIE Symposium Proceedings, Vol. 2419, Feb. 1995, San Jose, California, provides a methodology for the detection of direct scene cuts based on the distribution of motion vectors, and a technique for the location of transitional scene cuts based on DCT DC coefficients. Algorithms disclosed in the article by M.M. Yeung, et al. "Video Browsing using Clustering and Scene Transitions on Compressed Sequences," IS&T/SPIE Symposium Proceedings, Feb. 1995, San Jose, California. Vol. 2417, pp. 399-413, enable the browsing of video shots after scene cuts are located.

However, the Smoliar et al., Shahraray, and Arnian et al. references are limited to scene change detection, and the Meng et al. and Yeung et al. references do not provide any functions for editing compressed video.

Others in the field have attempted to address problems associated with camera operation and moving objects in a video sequence. For example, in the spatial domain, H.S. Sawliney, et al., "Model-Based 2D & 3D Dominant Motion Estimation for Mosaicking and Video Representation," Proc. Fifth Int'l conf.

Computer Vision, Los Alamitos, CA., 1995, pp. 583-390, proposes to find parameters of an affine matrix and to construct a mosaic image from a sequence of video images. In similar vain, the work by A. Nagasaka et al., "Automatic Video Indexing and Full-Video Search for Object Appearances," in E. Knuth and L. M.

Wegner, editors, Video Database Systems, II, Elsevier Science Publishers B.V., North-Holland, 1992, pp. 113 - 127, proposes searching for object appearances and using them in a video indexing technique.

In the compressed domain, the detection of certain camera operations,

e.g., zoom and pan, based on motion vectors have been proposed in both A. Akutsu et al., "Video Indexing Using Motion Vectors," SPIE Visual Communications and image Processing 1992, Vol. 1818, pp. 1522-1530, and Y.T. Tse et al., "Global Zoom/Pan Estimation and Compensation For Video Compression" Proceedings of ICASSP 1991, pp 2728. In these proposed techniques, simple three parameter models are employed which require two assumptions, i.e., that camera panning is slow and focal length is long. However, such restrictions make the algorithms not suitable for general video processing.

There have also been attempts to develop techniques aimed specifically at digital video indexing. For example, in the aforementioned Smoliar et al. article, the authors propose using finite state models

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16/3,K/1 (Item 1 from file: 348)
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01396728

Method for summarizing a video using motion and color descriptors
Verfahren zum Zusammenfassen eines Videos mit Bewegungs- und
Farbdeskriptoren

Methode pour resumer une video a l'aide de descripteurs de mouvement et de
couleurs

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Available Text	Language	Update	Word Count
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CLAIMS A	(English)	200209	242
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SPEC A	(English)	200209	3129
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Total word count - document A	3371
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Total word count - document B	0
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Total word count - documents A + B	3371
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...SPECIFICATION used technique uses a color histogram. Color histograms
have been widely used in image and **video** indexing and retrieval, see
Smith et al. in "Automated Image Retrieval Using Color and Texture...

...four bins for each channel, a total of 64 (4x4x4) bins are needed for
the **color histogram**.

Motion features

Motion information is mostly embedded in motion vectors. Motion vectors
can be extracted from P- and B-frames. Because motion vectors are usually
...to use motion vectors are known, see Tan et al. "A new method for
camera **motion** parameter **estimation**," Proc. IEEE International
Conference on Image Processing, Vol. 2, pp. 722-726, 1995, Tan et al.
"Rapid **estimation** of camera **motion** from compressed **video** with
application to video annotation," to appear in IEEE Trans. on Circuits
and Systems for Video Technology, 1999. Kobla et al. "Detection of
slow-motion replay sequences for identifying sports videos," Proc. IEEE
Workshop on Multimedia Signal Processing, 1999, Kobla et al. "Special
effect edit detection using VideoTrails: a comparison with existing

Step 410 determines the relative intensity of motion activity for each frame of each shot. Each frame is classified into either a first or second class. The first class includes frames that are relatively easy to summarize, and the second class 412 includes frames that are relatively difficult to summarize. In other words, our classification is motion based.

Consecutive frames of each shot that have the same classification are grouped into either an "easy" to summarize segment 411, and a "difficult" to summarize segment 412.

For easy segments 411 of each shot, we perform a simple summarization 420 of the segment by selecting a key frame or a key sequence of frames 421 from the segment. The selected key frame or frames 421 can be any frame in the segment because all frames in an easy segment are considered to be semantically alike.

For difficult segments 412 of each shot, we apply a color based summarization process 500 to summarize the segment as a key sequence of frames 431.

The key frames 421 and 431 of each shot are combined in form the summary of each shot, and the shot summaries can be combined to form the final summary S(A) 402 of the video.

The combination of the frames can use temporal, spatial, or semantic ordering. In a temporal arrangement, the frames are concatenated in some temporal order, for example first-to-last, or last-to-first. In a spatial arrangement, miniatures of the frames are combined into a mosaic or some array, for example, rectangular so that a single frame shows several miniatures of the selected frames

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01256958 **Image available**

MASTER-SLAVE AUTOMATED VIDEO-BASED SURVEILLANCE SYSTEM
SYSTEME MAITRE-ESCLAVE AUTOMATISE DE SURVEILLANCE VIDEO

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DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
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RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU MC NL PL
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Detailed Description

Detailed Description

... confidence criteria could include number of pixels in the motion mask (too many indicates the **motion estimate** is off), the degree of **color histogram** separation, the actual matching score of the template, and various others known to those familiar...

...of the target. A best shot is the optimal, or highest quality, frame in a **video** sequence of a target for recognition purposes, by human or machine. The best shot may be different for different targets, including human faces and vehicles. The idea is not necessarily to recognize the target, but to at least calculate those features that would make recognition easier. Any technique to predict those features can be used.

In this embodiment, the master 11 chooses a best shot. In the case of a human target, the master will choose based on the target's percentage of skin-tone pixels in the head area, the target's trajectory (walking towards the camera is good), and size of the overall blob. In the case of a vehicular target, the master will choose a best shot based on the size of the overall blob and the target's trajectory. In this case, for example, heading away from the camera may give superior recognition of make and model information as well as license plate information. A weighted average of the various criteria will ultimately determine a single number used to estimate the quality of the image. The result of the best shot is that the master's inference engine 23 orders any slave 12 tracking the target to snap a picture or obtain a short video clip. At the time a target becomes interesting (loiters, steals something, crosses a tripwire etc.), the master will make such a request. Also, at the time an interesting target exits the field of view, the master will make another such request. The master's 11 response engine 24 would collect all resulting pictures and deliver the pictures or short video clips for later review by a human watchstander or human identification algorithm.

In an alternate embodiment of the invention, a best shot of the target is, once again, the goal. Again, the system of the first embodiment or the second embodiment may be employed. In this case, however, the slave's 12 vision system 51 is provided with the ability to choose a best shot of the target. In the case of a human target, the slave 12 estimates shot quality based on skin-tone pixels in the head area, downward trajectory of the pan-tilt unit (indicating trajectory towards the camera), the size of the blob (in the case of the second 30 embodiment), and also stillness of the PTZ head (the less the motion, the greater the clarity).

For vehicular targets, the slave estimates shot quality based on the size of the blob, upward pan-tilt trajectory, and stillness of the PTZ head. In this embodiment, the slave 12 sends back the results of the best shot, either a single image or a short video, to the master I 1 for reporting through the master's response engine 24.

Master/Master Handoff

In a further embodiment of the invention, multiple systems may be interfaced with each other to provide broader spatial coverage and/or cooperative tracking of targets. In this embodiment, each system is considered to be a peer of each other system. As such, each unit includes a PTZ unit for positioning the sensing device. Such a system may operate, for example, as follows.

Considering a system consisting of two PTZ systems (to be referred to as "A" and "B"), initially, both would be master systems, waiting for an offending target. Upon detection, the detecting unit (say, A) would then assume the role of a master unit and would order the other unit (B) to become a slave. When B loses sight of the target because of B's limited field of view/range of motion, B could order A to become a slave. At this point, B gives A B's last known location of the target. Assuming A can obtain a better view of the target, A may carry on B's task and keep following the target. In this way, the duration of tracking can continue as long as the target is in view for either PTZ unit. All best shot functionality (i.e., as in the embodiments described above) may be incorporated into both sensors.

The invention has been described in detail with respect to preferred embodiments, and it will now be apparent from the foregoing to those skilled in the art that changes and modifications may be made without departing from the invention in its broader aspects. The invention, therefore, as defined in the appended claims, is intended to cover all such changes and modifications as fall within the true spirit of the invention.

CLAIMS

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00955334 **Image available**

METHOD FOR SUMMARIZING A VIDEO USING MOTION DESCRIPTORS

PROCEDE DE RESUME D'UNE VIDEO AU MOYEN DE DESCRIPTEURS DE MOUVEMENTS

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Detailed Description

Detailed Description

... used technique uses a color histogram. Color histograms have been widely used in image and **video** indexing and retrieval, see Smith et al. in "Automated Image Retrieval Using Color and Texture," IEEE Transaction on Pattern Analysis ...four bins for each channel, a total of 64 (4x4x4) bins are needed for the **color histogram** .

Motion Features

Motion information can be extracted and measured from motion vectors in P and...

...methods for extracting motion vectors are described, see Tan et al. "A new methodfor camera **motion** parameter **estimation** ," Proc. IEEE International Conference on Image Processing, Vol. 2, pp. 722-726, 1995, Tan et al. "Rapid estimation of camera motionfrom compressed **video** with application to **video** annotation," to appear in IEEE Trans. on Circuits and Systems for Video Technology, 1999. Kobla et al. "Detection of slow-motion replay sequencesfor identifying sports videos," Proc. IEEE Workshop on Multimedia Signal Processing, 1999, Kobla et al. "Special effect edit detection using VideoTrails: a comparison with existing techniques," Proc. SPIE 12 Conference on Storage and Retrieval for Image and Video Databases VII, 1999, Kobla et al., "Compressed domain video indexing techniques using DCT and motion vector information in MPEG video," Proc. SPIE Conference on Storage and

16/3,K/4 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00398834 **Image available**

PROCESSING OF VIDEO SIGNALS PRIOR TO COMPRESSION

TRAITEMENT DE SIGNAUX VIDEO AVANT COMPRESSION

Patent Applicant/Assignee:

SNELL & WILCOX LIMITED,
KNEE Michael James,
SOMERVILLE Stuart,

Inventor(s):

KNEE Michael James,
SOMERVILLE Stuart,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9739577 A1 19971023

Application: WO 97GB1034 19970414 (PCT/WO GB9701034)
Priority Application: GB 967645 19960412
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AU CA JP US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 3080
Fulltext Availability:
Detailed Description

Detailed Description

... the key involved, a non-linear key could also be used.

In compression encoders having **motion estimators** which remain effective in the presence of luminance fades, such as those utilising phase correlation to employ single B pictures between reference pictures.

The **video** analysis processor can generate a flash effect flag by looking at **histogrammed luminance** intensities across a number of pictures to identify sudden luminance changes. The encoder may make use of this flag to ensure that a picture which suffers from a flash effect is not used as a reference picture. In other words, the encoder may react to a flash effect flag by forcing the coding of a B picture. In this way, the encoder can avoid or reduce the -degradation of the encoded sequence that would normally accompany a photographic lighting or other flash effect.

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18/5/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00873263 **Image available**

PRE-PROCESSING METHOD FOR MOTION ESTIMATION.

PROCEDE DE PRETRAITEMENT POUR ESTIMATION DE MOUVEMENT

Patent Applicant/Assignee:

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Eindhoven, NL, NL (Residence), NL (Nationality)

Inventor(s):

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Legal Representative:

CHARPAIL Francois (agent), Internationaal Octrooibureau B.V., Prof.
Holstlaan 6, NL-5656 AA Eindhoven, NL,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200207445 A1 20020124 (WO 0207445)

Application: WO 2001EP7565 20010703 (PCT/WO EP0107565)

Priority Application: EP 2000402026 20000713

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

CN IN JP KR

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Main International Patent Class (v7): H04N-007/26

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 3208

English Abstract

The present invention relates to a method of processing an input digital video signal (IS) so as to provide a modified digital video signal (MS) for a motion estimation step (ME). Said processing method comprises the steps of computing (HIS) a histogram (h) of original values associated with pixels belonging to a video frame contained in said input digital video signal, analyzing (ANA) the histogram to provide histogram parameters (hp), and **correcting** (COR) the original pixel **values** on the basis of the histogram parameters to provide **modified pixel values**, which yields the **modified** digital video signal to be used by the motion estimation step. If required, this processing method may also comprise a step of filtering (FIL) the modified digital video signal so as to provide a filtered modified digital video signal (FMS) for the motion estimation step. Such a processing method is adaptive to the content of the input digital video signal and allows the motion estimation step to provide better motion vectors for the purpose of encoding. Use: video encoder

French Abstract

La presente invention concerne un procede de traitement d'un signal video numerique d'entree (IS) permettant d'obtenir un signal video numerique modifie (MS) pour une etape d'estimation de mouvement (ME). Ce procede de traitement consiste a calculer (HIS) un histogramme (h) des valeurs de depart associees a chaque pixel appartenant a une image video contenue dans ledit signal video numerique d'entree, a analyser (ANA) l'histogramme afin d'obtenir des parametres d'histogramme (hp), puis a corriger (COR) les valeurs de pixel de depart sur la base des parametres de l'histogramme afin d'obtenir des valeurs de pixel modifiees, ce qui permet de produire un signal video numerique modifie destine a etre

utilise lors de l'etape d'estimation de mouvement. S'il y a lieu, ce procede de traitement peut egalement comprendre une etape de filtrage (FIL) du signal video numerique modifie de facon a obtenir un signal video numerique modifie filtre (FMS) pour l'etape d'estimation de mouvement. Ce procede de traitement peut etre adapte au contenu du signal video numerique d'entree et permet, lors de l'etape d'estimation de mouvement, d'obtenir de meilleurs vecteurs de mouvement destines au codage. La presente invention s'applique au codage video.

Legal Status (Type, Date, Text)

Publication 20020124 A1 With international search report.

Publication 20020124 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

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22/3,K/1 (Item 1 from file: 349)
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PROCESSING OF VIDEO SIGNALS PRIOR TO COMPRESSION
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Priority Application: GB 967645 19960412

Designated States:

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AU CA JP US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 3080

Fulltext Availability:

Detailed Description

Detailed Description

... the key involved, a non-linear key could also be used.

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The **video** analysis processor can generate a flash effect flag by looking at **histogrammed luminance** intensities across a number of pictures to identify sudden **luminance changes**. The encoder may make use of this flag to ensure that a picture which suffers from a flash effect is not used as a reference picture. In other words, the encoder may react to a flash effect flag by forcing the coding of a B picture. In this way, the encoder can avoid or reduce the -degradation of the encoded sequence that would normally accompany a photographic lighting or other flash effect.

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File 344:Chinese Patents Abs Jan 1985-2006/Jan
(c) 2006 European Patent Office
File 347:JAPIO Nov 1976-2005/Nov(Updated 060302)
(c) 2006 JPO & JAPIO
File 350:Derwent WPIX 1963-2006/UD,UM &UP=200619
(c) 2006 Thomson Derwent

Set	Items	Description
S1	7162	(HISTOGRAM??? OR GRAPH??? OR CHART?? OR PLOT???) (5N) (LUMINANCE??? OR CHROMINANC??? OR BRIGHT????? OR COLOR????? OR COLOUR????)
S2	1485	(COMPUT??? OR ESTIMAT????? OR MEASUR????? OR CALCULAT????? OR DETERMIN????? OR EVALUAT????? OR RECORD????? OR DETECT????? OR EVALUAT????? OR IDENTIF?????) (5N) S1
S3	286043	(CORRECT???? OR ADJUST???? OR ALTER???? OR CHANG???? OR IMPROV???? OR AMEND???? OR MODIF?????) (5N) (VALU??? OR BRIGHT????? OR COLOR???? OR COLOUR???? OR LUMINANC??? OR CHROMINANC???)
S4	495697	VIDEO??
S5	75153	(NEW?? OR MODIFIED?? OR CORRECTED?? OR ADJUSTED?? OR ALTERED OR CHANGED OR IMPROVED OR AMENDED) (3N) (VALUE??? OR BRIGHT????? OR COLOR???? OR COLOUR???? OR LUMINANCE??? OR CHROMINANC???)
S6	2280	MOTION?? (3N) ESTIMAT????
S7	172443	PIXEL??? OR PICTURE?? (2N) ELEMENT?? OR SUBPIXEL??
S8	531	AU=(MARTIN F? OR MARTIN, F?)
S9	0	S2 AND S3 AND S4 AND S5 AND S6 AND S7
S10	0	S2 AND S3 AND S4 AND S5 AND S6
S11	0	S2 AND S4 AND S5 AND S6
S12	0	S1 AND S3 AND S4 AND S6
S13	1	S1 AND S4 AND S6
S14	0	S8 AND S1

13/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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016347423 **Image available**

WPI Acc No: 2004-505512/200448

Related WPI Acc No: 1997-258586; 2003-393853; 2003-730479; 2004-294058;
2004-294059; 2004-294060; 2004-294338; 2004-347146; 2004-374016;
2004-431075; 2004-560869; 2004-783183; 2005-423909

XRFX Acc No: N04-399261

**Method for performing arithmetic operations on
single-instruction-multiple-data stream in computing system, involves
multiplying and adding data elements in received instruction to obtain
data packet of specific length**

Patent Assignee: DEBES E (DEBE-I); DULONG C (DULO-I); EITAN B (EITA-I);
KOWASHI E (KOWA-I); MACY W W (MACY-I); MENNEMEIER L M (MENN-I); MITTAL M
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Inventor: DEBES E; DULONG C; EITAN B; KOWASHI E; MACY W W; MENNEMEIER L M;
MITTAL M; PELEG A D; TYLER J J; WITT W

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040117422	A1	20040617	US 95522067	A	19950831	200448 B
			US 2001952891	A	20011029	
			US 2001989736	A	20011119	
			US 2003611621	A	20030630	

Priority Applications (No Type Date): US 2003611621 A 20030630; US 95522067
A 19950831; US 2001952891 A 20011029; US 2001989736 A 20011119

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040117422	A1		37	G06F-007/38	Cont of application US 95522067 CIP of application US 2001952891 CIP of application US 2001989736 Cont of patent US 6385634

Abstract (Basic):

... instructions used for performing multimedia applications such as
computer supported cooperation (CSC) application, 2D/3D **graphics**,
image processing, **video** compression/decompression, **color** space
transformation, **video** encode **motion estimation**, **video** decode
motion estimation, modulation/demodulation (MODEM) function, pulse
coded modulation (PCM), recognition algorithm, and audio manipulation
in processor of data processing system e.g. computing system (claimed)
using Intel personal client architecture (Intel PCA) application
processor with Intel XScale technology.

ADVANTAGE - Enables to efficiently perform multiplication and
addition operations on the complex numbers in the data instructions
used for typical multimedia algorithms, and thereby improving the
performance of the multimedia algorithms.

DESCRIPTION OF DRAWING(S) - The figure shows the circuit diagram of
the system for performing arithmetic operations on the SIMD stream.
pp; 37 DwgNo 8a/8

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1997 International Conference on Image Processing
(ICIP'97) - Volume 2 p. 534

Content-Based Search of Video Using color, Texture, and Motion

Y. Deng
B. Manjunath

Full Article Text:  PDF

 [BUY ARTICLE](#)



DOI Bookmark:

<http://doi.ieeecomputersociety.org/10.1109/ICIP.1997.638826>

Abstract

We present an implementation of a system for content-based search and retrieval of video based on low-level visual features. Currently the system consists of three parts, automatic video partition, feature extraction, video search and retrieval. Three primary features, color; texture and motion are used for indexing. They are represented by color histogram, Gabor texture features, and motion histogram. Most of the processing is done directly in the MPEG compressed domain. Testing on sports and movie data-bases have shown good retrieval performance.

Additional Information

[Back to Top](#)

Citation: Y. Deng, B. Manjunath, "Content-Based Search of Video Using color, Texture, and Motion," *icip*, p. 534, 1997 International Conference on Image Processing (ICIP'97) - Volume 2, 1997.

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